

Instructor Guide to Unit Seven: CERT Organization

1. The goal of this unit is to provide participants to understand the organizational patterns used in CERT when they are activated as a team. It links CERT to the emergency management response and recovery structure.

2. This is the content for Unit Seven:

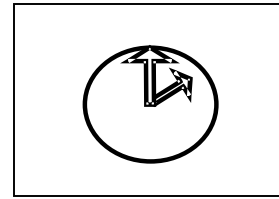
- a. The goals of on-scene emergency management
- b. The goals of CERT organizational structure
- c. Incident Command
- d. CERT Decision Making
- e. CERT Documentation
- f. Activity

3. Supplies needed for Unit Seven:

- LCD projector
- Computer linked to LCD projector
- Computer disk containing Unit Seven power point presentation
- Instructor Guide for Unit Seven
- Participant's Manual for CERT

4. Instructional staffing requirements:

One instructor is required for this unit. Team teaching is encouraged.

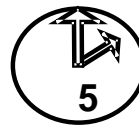


5. Unit seven is scheduled for sixty minutes.

This is the suggested time-line:

- a. 10 minutes
- b. 5 minutes
- c. 15 minutes
- d. 5 minutes
- e. 10 minutes
- f. 15 minutes

60 minutes total



The clock is found throughout the instructor guide it indicates how many minutes it is suggested be spent on each subject area.

Time spent on each unit can be maneuvered by dropping content and referring to its placement in the take-home materials. This permits flexibility on the part of the instructor and encourages participants to question or discuss course matters. It also holds the instructor to the time limit for the unit without expecting participants to stay overtime or to have instructors who follow to give up their time.



Ten minutes are slated for the first three slides.

Community Emergency Response Teams are formed by community members and are designed to prepare individuals to help themselves, their families and neighbors in the event of a catastrophic disaster. CERT members receive basic training in disaster survival and rescue skills which improve the ability of citizens to survive until responders or other assistance arrives.

Even if participants do not join a CERT team they will leave the training with basic disaster survival and rescue skills to help them, members of their household and work teams.

CERT roles in recent disasters are covered on page 3 of 23 in Unit Seven of the Participant's Manual.

As volunteers, CERT members functioning in emergency services are generally protected by "Good Samaritan" laws that protect people who provide emergency care in a prudent and reasonable manner.

Know the state laws for good Samaritans for your area.

Unit Seven CERT Organization



Community Emergency Response Training

Overview and Objectives

- This unit explains the organizational patterns used in CERT
- It explains how it fits into the emergency management response and recovery structure
- Describe CERT Organization
- Identify how CERT personnel interrelate with the Incident Command System
- Explain CERT documentation requirements



Community Emergency Response Training

On-Scene Emergency Management

- Maintain the safety of disaster workers
- Provide clear leadership and organizational structure
- Improve the effectiveness of rescue efforts



Community Emergency Response Training



CERT organizational framework is flexible, it can expand or contract depending on the on-going assessment priorities determined by the IC, and people and resources available. This expansion and contraction helps ensure rescuer safety, doing the greatest good for the greatest number, manageable span of control and accountability of personnel.

. CERT Incident Commanders must continually prioritize response activities based on the team's capability and training and the principle that rescuer safety is the number-one concern. CERT functional leadership assigns activities and accounts for team members. CERT team members work in the buddy system and respond based on their size-up of the situations that they encounter.

The basic ICS structure is established by the person who arrives first to the scene, who becomes the Incident Commander. Initially, the Incident Commander may handle all of the command positions shown in the visual, but as the incident evolves, may assign personnel as the operations chief, logistics chief, planning chief or administration chief.

CERT Organizational Structure Goals

- Effective communication
- Common terminology
- Well defined management structure
- Accountability
- Action plans
- Manageable span of control



Community Emergency Response Training

CERT Organizational Structure Goals in a Disaster

- Identify scope of incident
- Determine strategy
- Deploys teams and resources
- Documents actions and results



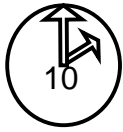
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Incident Command System

- Organizational system for emergency management, fire departments and law enforcement agencies.
- Is flexible
- Ensures rescuer safety
- Manageable span of control
- Accountability of personnel
- **Do the greatest good for the greatest number**



Community Emergency Response Training



The ICS system is also found in a chart in Unit Seven, page 8 of 23 Visual One

As the incident expands, it may be necessary to assign other personnel in each section to handle specific aspects of the response while maintaining an effective span of control.

Use the chart in Unit Seven, pages 11, 12 and 13 to highlight this slide.

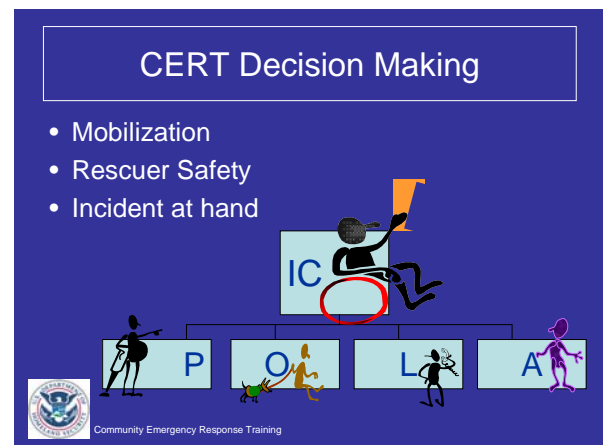
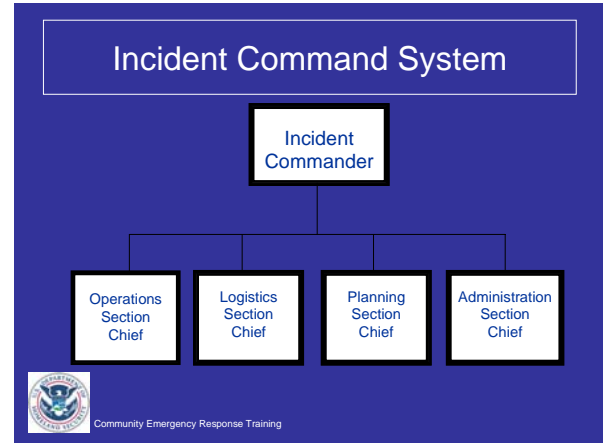
CERT Mobilization – Following the incident, CERT members take care of themselves, their families, their homes, and their neighbors.

If the Standard Operating Procedure calls for self-activation, CERT members proceed to the pre-designated staging area with their disaster supplies. The first CERT member at the staging area becomes the initial IC for the response. As other CERT members arrive, the CERT IC may pass leadership to someone more qualified.

Rescuer safety is paramount.

It is vital to document and communicate information about the disaster situation and resource status. Efficient flow of information makes it possible for resources to be deployed effectively and for professional emergency services to be applied appropriately. Under the CERT organization, each level of authority has documentation responsibilities:

Pages 15 through 21 of Unit Seven have documentation forms commonly used by CERT teams.





This activity is found in the Participant's Manual in Unit Seven on page 22 of 23.

It is good to review the activity before you present it, so you know the answers.

The discussion that occurs during this activity should help clarify the academic material presented previously.

Not all CERT activities are directly during the response phase of a disaster. This slide shows how CERT members shared information about mitigation with the community as it was beginning to rebuild.

Announcements before the participants are dismissed:

If your CERT class continues on the same day, take your break and return to this classroom.

Or

If your CERT class continues on another day (next week or next month) Your **Homework Assignment** is to read Unit Eight: Disaster Communication

ICS Activity

- Using your knowledge about the five Incident Command System functions, decide which function the following activities would fall. Some activities may involve more than one function to be completed.
- Work as a group.



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CERT Roles in recent disasters

- Northridge earthquake
- Florida hurricanes



Port Charlotte, FL, September 19, 2004 -- CERT is part of the FEMA organized "Operation Rebuild", a gathering about storm resistant construction techniques held in Port Charlotte for residents affected by Hurricane Charley. Photographer - Mark Wolfe



Community Emergency Response Training



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Instructor Guide to Unit Eight: Disaster Communication

1. The goal of this unit is to explore how the form and function of communication is impacted by the circumstances of a disaster. It will emphasize how communication should be based on the needs of the relationship between the survivors, responders and community experiencing the disaster

2. This is the content for Unit Eight:

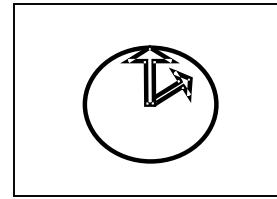
- a. The forms and functions of communication during a disaster.
- b. Four major systems of personal communication
- c. Communication Exercise

3. Supplies needed for Unit Eight:

- LCD projector
- Computer linked to LCD projector
- Computer disk containing Unit Eight power point presentation
- Instructor Guide for Unit Eight
- Participant's Manual for CERT

4. Instructional staffing requirements:

One instructor is required for this unit. Although team teaching is encouraged.



5. Unit Eight is scheduled for 1 hour.

This is the suggested time-line:

- a. 20 minutes
- b. 25 minutes
- c. 15 minutes

60 minutes total



The clock is found throughout the instructor guide it indicates how many minutes it is suggested be spent on each subject area.

Time spent on each unit can be maneuvered by dropping content and referring to its placement in the take-home materials. This permits flexibility on the part of the instructor and encourages participants to question or discuss course matters. It also holds the instructor to the time limit for the unit without expecting participants to stay overtime or to have instructors who follow to give up their time.



20 minutes is allotted for six slides.

Along with such concrete elements, intangible elements like personal communication networks are in disarray. Communications technologies such as phones, faxes and computer lines may easy to identify and repair; personal communication networks are not so easy to reestablish. People may or may not have access to their loved ones, and they usually don't have access to individuals who are not in their immediate family. Those people or groups are also an important way people gather and share information, on an informal everyday basis.

Individuals and groups with whom people engage in everyday talk are now displaced and the taken-for-granted nature of communication is exposed. In modern western culture people expect communication with family and friends as well as business and government to be immediate. A disaster destroys not only the technology that provides those services, but displaces people's interpersonal relationships.

This can place great stress on individuals as they attempt to understand the disaster and reconstruct the relationships of their daily lives.

Community Emergency Response Training Unit Eight: Disaster Communication



Community Emergency Response Training

Objectives

Describe how a disaster can interrupt the **taken-for-granted nature** of personal communication networks.

List the **four major types of communication** that can be utilized during a crisis for the benefit of survivors, responders and the community.

Display an ability to be flexible in your communication form in order to get across simple messages in class activities that simulate disaster situations.



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The scope of disasters

- In a time of disaster everything can be in a disastrous state:
 - Land
 - Community
 - Loved ones
 - Resources
 - Employment
 - Social services



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Just like society takes for granted the instant nature of communication technology, most people take for granted that their primary form of personal communication will always be available and functional. Even more so, people often assume that others will adapt to them when communicating. Disasters can put everything in disarray, even a person's system of personal communication. Human bodies can get harmed, and with that physical systems of communication can falter and fail. Consider:

What is your primary form of communication?

How would you feel if it was no longer available to you?

How might you adapt and communicate without it?

Personal skills used by individuals may be interrupted by the disaster.

Although training and preparation can help avoid personal injury during a disaster, physical harm can happen to anyone from a random person on the street to the most highly trained emergency management personnel. Imagine how you would have to adapt if your primary form of communication was no longer available to you (to either send or receive information).

Communication Networks and Disasters

• Communication Technology Networks

- Phones
- Computer lines
- Cell towers

• Length time to repair

• Social Communication Networks

- Friends and family
- Community groups
- Service organizations
- Taken-for-granted nature of communication systems in everyday life.



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Impact

- A disaster destroys not only the technology that provides communication services, but displaces people's interpersonal relationships.
- This can place great stress on individuals as they attempt to understand the disaster and reconstruct the relationships of their daily lives.



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Personal Communication Skills

How you would adapt if your primary form of communication was damaged?

Consider:

- Loosing your voice (if you are a speaking person)
- Breaking your hands
 - (if you use American Sign Language)
- Being separated from your interpreter
 - (if you speak English as a second language)



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25 minutes are allotted for the slides labeled 'four major systems of personal communication' (four slides).

Oral communication (talk) uses sound to form words (then the words form sentences to express thoughts and ideas in spoken format). Many things can affect the use of oral communication such as culture, physical capacity, language and many other elements. In Western cultures talk is viewed as desirable and people use it for social purposes and for performing tasks. In some other cultures talk is perceived differently, silence is more valued.

Some written communication is formal such as report writing, other is informal, such as the use of notes or symbols. Formal written communication is often one-way communication. CERT members who work on a team will often have to report on their daily and weekly activities in written format.

Messages expressed by means other than spoken words are considered non-verbal or visual communication. Visual communication can include

- How a person is dressed
- How space is used while communicating
- Use of color
- Body gestures

Non-verbal communication does not need sight to be perceived, it can include:

- The use of time
- Voice
- Speed
- The use of touch

Four major systems of personal communication

• Oral Communication is influenced by:

- Culture
- Social needs
- Physiology
- Disasters

Tips

- Think before you speak
- Be clear and concise
- Regulate your tone and pitch
- Avoid using contractions and acronyms
- be willing and able to adapt to the needs of the receiver



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Four major systems of personal communication

• Written Communication

- Formal
 - Reports
 - Memos
- Informal
 - Words
 - Symbols

Tips

- Always have workable writing implements
- Keep things short
- Use fact not opinion
- Limit acronyms
- Be willing and able to adapt to the needs of the receiver



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Four major systems of personal communication

• Non-verbal communication

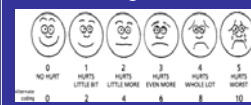
- Sight or description dependent
- Color, gestures, etc.

• Visual communication

- Perception dependent
 - Time
 - Vocal intonation
 - Touch

Tip: Using symbols

Wong-Baker FACES Pain rating scale



- Be willing and able to adapt to the needs of the communication relationship



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Work with a partner or small group for this activity (3-4 people) Take turns changing roles between being the community member and CERT responder.

- Have one person assume the role of an individual who is hurt because of the disaster. This person must communicate their pain to the respondent; practice doing this in several ways. First do not use your primary form of communication (e.g. if you speak, do not do that. If you use sign language, do not use that)
- The goal of the listener respondent is to accurately assess the condition of the person pretending to be hurt.
- You can make this activity more complex by changing what the person is trying to communicate. Rather than identifying pain, the person could attempt to tell the responder someone is caught in rubble, separated from their family or in need of medication.

After the activity is complete, spend time with your partner or group deconstructing the process of communicating under these circumstances. What was the process like? How long did it take you to understand one another? When the pain or circumstances were more complex, how did that impact your ability to communicate?

If your CERT class continues on the same day, take your break and return to this classroom.

Or

If your CERT class continues on another day (next week or next month) Your **Homework Assignment** is to read Unit Nine: Disaster Psychology

Four major systems of personal communication

Listening involves:

- Attending
- Understanding
- Responding
- Remembering

• Tips:

- Talk Less
- Get rid of distractions
- Do not judge prematurely
- Listening takes time and effort
- Adapt to the relationship needs



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Communication Style Flexibility Exercise

- One person role play
 - Hurt person and responder
- Communicate this to the partner without using your primary form of communication
 - Make it more complex
 - Flexibility and concentration are key
- Read the Participants Manual on page 11 for details.



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Community Emergency Response Training

Instructor Guide to Unit Nine: **Disaster Psychology**

1. The goal of this unit is to provide participants an understanding of the psychological impact of disasters on CERT members and survivors of disasters. Further it will help CERT members recognize how stress and trauma manifests differently in members of a diverse community.

2. This is the content for Unit Nine:

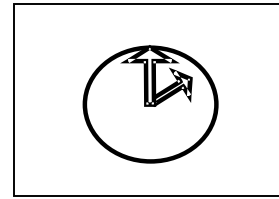
- a. Understanding disaster and post-disaster emotional environments.
- b. Identifying the steps rescuers can take to relieve their own stress
- c. Diverse communities and social locations
 - o Elderly
 - o Children
- d. Resource and Referral

3. Supplies needed for Unit Nine:

- LCD projector
- Computer linked to LCD projector
- Computer disk containing Unit Nine power point presentation
- Instructor Guide for Unit Nine
- Participant's Manual for CERT

4. Instructional staffing requirements:

One instructor is required for this unit. Team teaching is encouraged.



5. Unit Nine is scheduled for one-and-a-half hours.

This is the suggested time-line:

- a. 15 minutes
- b. 30 minutes
- c. 30 minutes
- d. 15 minutes

90 minutes total



The clock is found throughout the instructor guide it indicates how many minutes it is suggested be spent on each subject area.

Time spent on each unit can be maneuvered by dropping content and referring to its placement in the take-home materials. This permits flexibility on the part of the instructor and encourages participants to question or discuss course matters. It also holds the instructor to the time limit for the unit without expecting participants to stay overtime or to have instructors who follow to give up their time.



Fifteen minutes are allotted for nine slides.

The concept of this unit is to understand how stress impacts those who respond to a disaster.

It is not training participants to become counselors, rather, like the disaster medical units, to do psychological triage. Identify who is under stress and how to treat it simply on the scene or to refer it on to professionals who will deal with it on a longer-term basis.

Disaster Psychology



Community Emergency Response Training

Unit Overview

- Examine the psychological impact of disasters on:
 - CERT members
 - Survivors
- Understand CERT members role:
 - Learn about possible psychological impacts to survivors and respondents
 - Manage reactions and work better with others



Community Emergency Response Training

Unit Objectives

- Describe disaster and post-disaster emotional environment
- Identify the steps rescuers can take to relieve their own stress
- Recognize how stress and trauma manifests differently in members of a diverse community.



Community Emergency Response Training

People who respond to disasters need to have an understanding about how people might react to the event. Just as people are vastly different, so are their reactions.

Charles Fritz a groundbreaking researcher of disasters indicates a disaster is unusual and catastrophic. A disaster is either due to accidental or hard to control events society or a self-sufficient subdivision of society undergoes after an incident that disrupts all or some of the essential functions of that society.¹

¹ Fritz, Charles E. 1961. "Disasters." Pp. 651-694 in *Contemporary Social Problems*, Robert K. Merton and Robert A. Nisbet (eds.). New York: Harcourt

During a disaster, you may see, smell or hear things that will be extremely unpleasant. Even if you don't experience such events first hand, you will likely interact with others who have. This can turn from empathy to Vicarious Trauma, which is a process of over-identifying with survivors (almost to the point of taking on their burdens as your own). It is an "occupational hazard" for helpers. Taking ownership of others' problems will compound your stress and affect the overall effectiveness of response and recovery teams.

Understanding disaster and post-disaster emotional environments



Community Emergency Response Training

Photograph Andrea Boehler

Defining Disaster

- **Disaster** is a calamitous or catastrophic situation that brings overwhelming loss or destruction and requires outside resources for response and recovery
 - Relatively unexpected
 - Emergency services may be initially overwhelmed
 - Life, health, environment are endangered



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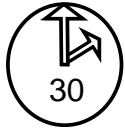
Vicarious Trauma

- Empathy can become overgrown
- Over-identifying with survivors
 - Take on their burdens
- Occupational Hazard

CERT goal – Take care of yourself in order to take care of others.



Community Emergency Response Training



30 minutes are allotted for the next 13 slides.

Be alert to psychological (emotional) and physiological (physical) signs of disaster trauma in yourself, as well as in disaster victims, so that you can take steps to alleviate stress.

This is a good point in the unit to ask participants if they have experienced other symptoms of stress.

The question on this slide is good to use as a discussion starter. Participants can share their answers with a partner or the group they are sitting with and then some material can be shared with the whole class.

How can physiological conditions be masked as psychological symptoms?

Individual Well-Being

- **Transference**
 - taking ownership of the problems, experiences and/or symptoms of another person
- **Self-monitoring**
 - being alert to your symptoms



Community Emergency Response Training

Psychological Symptoms

- | | |
|-----------------------------|-------------------------------------|
| • Irritability or anger | • Mood swings |
| • Blaming of self or others | • Sadness, depression, and grief |
| • Isolation and withdrawal | • Denial |
| • Fear of recurrence | • Concentration and memory problems |
| • Feeling numb or stunned | • Relationship and marital discord |
| • Feeling helpless | • Inability to make decisions |



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Physiological Symptoms

- | | |
|-------------------------------------|---|
| • Loss of appetite | • Increased alcohol or drug consumption |
| • Headaches or chest pains | • Nightmares |
| • Diarrhea, stomach pain, or nausea | • Inability to sleep |
| • Hyperactivity | • Fatigue or low energy |
| | • Lack of coordination |

How can physiological conditions be masked as psychological symptoms?

Example - dehydration



Community Emergency Response Training

You should spend some time thinking about other ways to reduce stress personally. Only you know what makes you able to reduce stress within yourself. Expend the effort required to find personal stress reducers is worthwhile before an incident occurs.

Are there other stress reduction activities members of the class have that work for them?

Identifying the steps rescuers can take to relieve their own stress



Community Emergency Response Training

Photographer Paul Roszkowski, USCG

Stress reduction activities

- Rest & sleep
- Exercise
- Eat a balanced diet of frequent small meals high in protein and low in sugars
- Avoid caffeine & carbonation
- Balance work, play and rest
- Receive as well as give
- Connect with others
- Maintain routines
- Use spiritual resources



Community Emergency Response Training

Maintain previous routines and "rituals"

The Four Basics...

- Eat
- Drink water
- Physical activity
- Avoid caffeine and alcohol

Plus talk about your feelings with a "safe" person



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As a member of a response team you will need to watch for the physical and psychological health of each other.

This material is covered in-depth on pages 4 of the participant's manual.

People who have worked on teams that conduct their activities under high stress situations (e.g. medical teams) may want to share techniques with the rest of the group that relieve stress and encourage team building.

Team Well Being

- Emphasize personal safety first
- Stress management training
- Role play and exercises



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Team Well Being

- Encourage rest and re-group
- Rest breaks away from incident area
- Eat properly and plenty of water... avoiding caffeine and sugar
- Rotate duties... from high stress to low stress jobs
- Encourage sharing experiences



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Team Well Being

- Phase out workers gradually
- Conduct brief discussion after shifts
- Arrange for an informal and/or a professional debriefing



Community Emergency Response Training

CISD is one type of intervention system that is based on a careful assessment of the needs of a group (or sub-groups within a larger organization). A CISD is a formal group process held between 1 to 3 days after the event and is designed to help emergency services personnel and volunteers cope with a traumatic event.

Participation in CISD should be voluntary.

CISD should not be used as a stand-alone intervention it should be used in conjunction with other types of intervention (such as: personal stress reduction techniques, informal debriefings, or professional longer term counseling).

To schedule a CISD, you should contact the Red Cross, local emergency management agency, or community mental health agency. You could also ask your local fire or police department for help in contacting the appropriate person.

If someone in the class has gone through a formal CISD, they might want to share their reactions to the process. Some people react well to this type of processing; others find it unnecessary.

It is good to speak to the difference of opinion. There is NO ONE RIGHT WAY of dealing with individual or team stress.

Critical Incident Stress Debriefing (CISD)

- A comprehensive, multi-component crisis intervention system, carefully based upon the assessment of group needs
- Not a stand alone event
- Voluntary participation
- Confidential



Community Emergency Response Training

Locating a CISD intervention specialists

- American Red Cross
- Local Fire or Police Department
- Community Mental Health Agency
- Local Emergency Management Agency



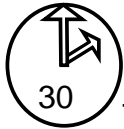
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Critical Incident Stress Debriefing

1. Introduction and overview
2. Ask for factual information about the incident
3. Ask for initial thoughts and feelings
4. Sharing reactions since the event



Community Emergency Response Training



Thirty minutes are allotted for the next 15 slides

Don't let the media define disasters or disaster behavior for you!

If you watch television or movie portrayals of people reacting to disasters you have seen disaster mythology represented. Hysteria, widespread irrational activity and dysfunctional behavior may be what can 'sell the story' but they are not factual.

Disaster myths that assume that the norms that govern individual and social behavior collapse during a disaster have been proven wrong by many researchers and teams

These myths are explained in detail on page 7 of 27 in the participant's manual, Unit 9.

Critical Incident Stress Debriefing

5. Review symptoms of stress experienced by participants
6. Instruction of normal stress reactions
7. Closing and referring to professionals



Community Emergency Response Training

Recognize how stress and trauma manifests differently in members of a diverse community



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Photographer Melissa Ann Janssen

Disaster Myths "It's not Hollywood"

- Panic Flight
- Looting
- Price Gouging
- Contagion
- Martial Law
- Psychological Dependency
- Disaster Shock
- Evacuation Behavior
- Shelter Use
- Death, Injury, and Damage are dramatic and grotesque
- **These are all rare occurrences!**



Community Emergency Response Training

General Patterns of Behaviors in Disasters

Although the makers of the 'movie of the week' and tabloid reports create images of hysteria and selfishness in survivors, the actual patterns of behavior of individuals and communities after disasters hit are in sharp contrast to such myths.

Social location refers to your place or position in a society.

Try this example to get the class to start to think about social location:

Think about **three people sitting on a bench.**

- All are female.
- All are 80 years old.
- All live in Miami Beach Florida.
- All of them will experience the same hurricane.

- One of them is wealthy.
- One of them is living with extended family and lives off of her social security and speaks English as a second language.
- One is a former teacher who lives with her partner in a double-wide trailer in a retirement community.

All these women are in the same geographic location. They share some demographic qualities (age and gender), but their social location (place in society) will impact the way they experience the disaster. How is that so?

This makes for good discussion leading into the slide for Social Location Group Activity where people examine their own social location.

Disaster Behavior

- People generally follow directions, when information is clear and concise
- Remain calm
- Do not panic
- Altruistic
- Desire to observe and survey damage
- Tell their story
- Become active in political process



Community Emergency Response Training

Social Location

- Response and recovery to a disaster is impacted by where people are located in a society.
- Social location refers to a person's place or position in a society.
- The space and place people occupy in a society can cause them to have vastly different experiences from the same disaster.



Community Emergency Response Training

Social Location - Group Activity

Describe your social location

1. Age, gender, family and cultural upbringing
2. Education and training
3. Physical skills, abilities and limitations
4. Community, neighbors, friends, and support

If there were a disaster while you were at home, how would your social location impact your experience?

If you were 500 miles from home, how would your social location impact your experience?



Community Emergency Response Training

Disaster researchers Enarson and Morrow indicate that when members of a community have to deal with issues like restricted housing choices, migration, poverty and other limits to choice they experience risk and disaster differently than those with economic, political or social means. Enarson, Elaine,

Betty Hearn Morrow. 1998. *The Gendered Terrain of Disaster: Through Women's Eyes*. Praeger, Westport, Connecticut.

One special community you may encounter in a disaster might be the elderly. Some elderly citizens experience depression, trauma and death not directly due to the disaster, but because their 'taken-for-granted' life in the pre-disaster phase is so disrupted and cannot be restored in the post disaster period. Disaster research has indicated that older members of society will experience disasters differently due to their social isolation, personal situations and limited access to information.

Hooper, Pattijean, Kathleen Fearn-Banks, 2005. "Finding Milton Wright: How Public Relations Disaster Campaigns Impact the Elderly." *The Journal of Promotions Management*, vol 12, issue 3.

Page 10 and 11 of the Participant's Manual detail some of the specific needs elderly people may have during or after a disaster. This slide focuses on the negative issues.

Social Location

- Injury
- Displaced
- Personal losses
- Degree of exposure
- Stuck in/out of town
- Newcomers
- Isolated "loners"
- Disabled
- Pre-existing needs, problems, losses
- Poor or homeless
- Cultural groups
- Primary language
- Non-traditional families
- Children
- Elderly



Community Emergency Response Training

Elderly

- **Information limitations**
 - Electronic communication
 - Written communication
 - Lack access to public space and information sharing
- **Social isolation**
 - Personal
 - Social
- **Personal Situations**
 - Financial
 - Physical



Photographer – Andrea Bocher



Community Emergency Response Training

Elderly

- Increasing number of elderly
- Barriers of diversity in elderly population
- Sensory deprivation
- Chronic illness
- Multiple losses & emotion attachment
- Stigma with welfare & bureaucracy
- Loss of residence puts some in a state of uncertainty



Community Emergency Response Training

Along with vulnerabilities that can come with age, older member of our culture can have more time to devote to CERT teams and disaster volunteer opportunities. They may have more life experience relating to trauma or disaster that could help others.

This slide stresses the positive.

Another specific community you may encounter in disasters might be children.

Natural disasters can leave children feeling frightened, confused, and insecure. Whether a child has personally experienced trauma or has merely seen the event on television or heard it discussed by adults, it is important for parents and teachers to be informed and ready to help if reactions to stress begin to occur.

Children respond to trauma in many different ways. Some may have reactions very soon after the event; others may seem to be doing fine for weeks or months, and then begin to show worrisome behavior. Knowing the signs that are common at different ages can help parents and teachers to recognize problems and respond appropriately.

<http://www.mentalhealth.samhsa.gov/publications/allpubs/KEN-01-0093/default.asp>

Helping the Elderly

- Older people have experiences that can help others respond and recover better!
- Older people are a great volunteer source for community service
- Physical reactions are normal
- Acknowledge feelings
- Ask and accept help



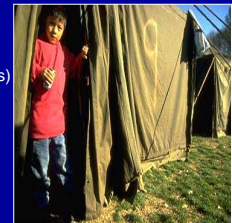
Community Emergency Response Training



Photographer – Andrea Booher

Youth

- **Preschool** (0 – 6 years)
 - Total support
- **Early Childhood** (7 – 12 years)
 - Will follow direction
 - Need security
- **Adolescence** (12 – 14 years)
 - Resource with caution
- **Late Adolescence** (15 – 18 years)
 - Resource but distracted



Photographer – Andrea Booher



Community Emergency Response Training

Youth

- **How to help**
 - Answer questions honestly and do not be afraid to admit where you can not
 - Do not diminish child's capacity to understand
 - Allow and encourage discussion of feelings and concerns without judgments
 - Encourage expression of feelings particularly through art forms
 - Focus on facts, not blame or guilt.



Community Emergency Response Training

Preschool Age – Children from one to five years in age find it particularly hard to adjust to change and loss.

Early Childhood – Children aged five to eleven may have some of the same reactions as younger boys and girls. In addition, they may withdraw from play groups and friends, compete more for the attention of parents, fear going to school, allow school performance to drop, become aggressive, or find it hard to concentrate.

Adolescence – Children twelve to fourteen are likely to have vague physical complaints when under stress and may abandon chores, schoolwork, and other responsibilities they previously handled.

The National Institute of Mental Health estimates that approximately 10% of survivors experience great distress after a disaster¹. This may be in the immediate aftermath or in the longer-term recovery process. There is no specific pattern or time-line for feeling traumatized.

National Institute of Mental Health. Innovations in Mental Health Services to Disaster Victims. Washington, D.C.: U.S. Department of Health and Human Services; Publication No. (ADM) 90-537, 1990.

Social Location - Youth

- Remember cultural differences
 - Emotional expression
 - Children have a social position within their culture and may not be as apt to discuss
- Repeated experiences



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Photographer – Andrea Booher

Traumatic Stress

- About 10% of post-disaster population
- No time line
 - Immediate
 - Longer term



Community Emergency Response Training



Photographer – Andrea Booher

Traumatic Stress

- Trauma responses impact
 - Cognitive functions
 - Physical health
 - Interpersonal relationships
- Personal reactions vary
 - Experience
 - Level of disruption
 - Cultural and social resources



Community Emergency Response Training

The goal of on-scene psychological intervention on the part of CERT members should be to stabilize the incident scene by stabilizing individuals and then referring them to longer term support systems if needed.



15 minutes are allotted for the remaining slides.

Local, Community, State, Tribal and Federal organizations or agencies that can help you better understand disaster psychology and act as a support and referral system to you during disaster response are good to know **before teaching this unit**. Tailor this section of the unit to the available resources in your area.

The more you know your neighborhood, workplace, and your community the more you will discover about the needs of your friends, neighbors, co-workers and fellow citizens. Encourage participants to know their community to be a better responder in a time of disaster.

Participants may know of many organizations in the area that can be a part of a list of community resources.

Supportive Responses

- Listen
- Assess for injury or shock
- Get uninjured people involved
- Empathize
- Connect to natural support networks
- Referrals
 - Human Services
 - Mental Health
 - Spiritual care



Community Emergency Response Training

Resources & Referral

- Do some pre-event research of possible resources of help during and after a disaster
 - Local & Community Resources
 - Regional Resources
 - State Resources
 - Federal Resources
 - National Organizations



Community Emergency Response Training

Local Community Resources

- Government
 - Federal
 - State
 - Local
- Businesses
 - Chamber of Commerce
- Schools
 - Public and private



Community Emergency Response Training

National Organizations - that support disaster response and recovery include The National Voluntary Organizations Active in Disaster (NVOAD) which coordinates planning efforts by many voluntary organizations. Member organizations provide more effective and less duplication in service by getting together before disasters strike. Once disasters occur, NVOAD or an affiliated state VOAD encourages members and other voluntary agencies to convene on site. This cooperative effort has proven to be the most effective way for a wide variety of volunteers and organizations to work together in a crisis. NVOAD serves member organizations through: communication, cooperation, coordination, education, leadership, development, mitigation, convening mechanisms, and outreach.

Announcements before the participants are dismissed:

If your CERT class continues on the same day, take your break and return to this classroom.

Or

If your CERT class continues on another day (next week or next month) Your **Homework Assignment** is to read Unit Ten: All Hazards.

Local Community Resources

- Neighborhoods
 - Geographical, socio-economic
 - Cultural, ethnic & language
 - Demographic age groups
- Not-for-profit Organizations
 - National organizations
 - Community based organizations
- Faith Communities
 - Ecumenical vs. Inter-faith



Community Emergency Response Training

Unit Summary

- Describe disaster and post-disaster emotional environment
- Identify the steps rescuers can take to relieve their own stress
- Recognize how stress and trauma manifests differently in members of a diverse community.
- Who can get traumatized?
- What are causes of disaster trauma?
- Physical and Physiological
- Well being activities
- Social Location
- Empathy Responses
- Referral groups



Community Emergency Response Training



Community Emergency Response Training

Instructor Guide to Unit Ten

All Hazards

1. The goal of this unit is to provide participants with general definitions, preparation, response and recovery information for all hazards. Each category is covered in writing; however, the CERT instruction team may only cover issues that are pertinent to the immediate community or region.

2. This is the content for Unit Ten:

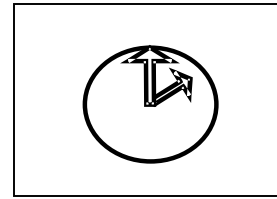
- a. Dams
- b. Earthquakes
- c. Extreme heat
- d. Floods
- e. Hazardous materials
- f. Hurricanes
- g. Landslides and debris flow
- h. Nuclear emergencies
- i. Terrorism
- j. Thunderstorms and lightning
- k. Tornadoes
- l. Tsunamis
- m. Volcanoes
- n. Wild-land fires
- o. Winter storms

3. Supplies needed for Unit Ten:

- LCD projector
- Computer linked to LCD projector
- Computer disk containing Unit Ten power point presentation
- Instructor Guide for Unit Ten
- Participant's Manual for CERT

4. Instructional staffing requirements:

Although one instructor is enough to present the material, because of the length of the unit, use of several instructors would be better.



5. Unit ten is scheduled for 3 hours
This is the suggested time-line:

- Overview and objectives 5 minutes
- Mitigation efforts 10 minutes
 - a. 10 minutes
 - b. 10 minutes
 - c. 10 minutes
 - d. 10 minutes
 - e. 10 minutes
 - f. 10 minutes
 - g. 10 minutes
 - h. 10 minutes
 - i. 10 minutes
 - j. 10 minutes
 - k. 10 minutes
 - l. 10 minutes
 - m. 10 minutes
 - n. 10 minutes
 - o. 10 minutes
- Performance Measure activity 10 minutes
- Break – placement at instructors discretion 15 minutes.



The clock is found throughout the instructor guide it indicates how many minutes it is suggested be spent on each subject area.

Time spent on each unit can be maneuvered by dropping content and referring to its placement in the take-home materials. This permits flexibility on the part of the instructor and encourages participants to question or discuss course matters. It also holds the instructor to the time limit for the unit without expecting participants to stay overtime or to have instructors who follow to give up their time.

This unit is scheduled for 3 hours. It can be expanded or contracted based on regional hazard needs or existing circumstances. A 15-minute break is scheduled at the discretion of the instructor.

The power point slides have descriptors of visual images but the instructor may need to explain them further.

The instructor(s) for this unit should know the material well and avoid reading slides.

Display this slide as participants enter the room.



Review the objectives and inform participants that a performance measure activity is formatted into this unit at the end of the materials to help them obtain the objectives.

This is the point where the instructor should indicate if all hazards will be covered in the same depth or if some regional hazards will be highlighted and other less likely to occur hazards will not be covered in depth.



This slide introduces the concept of mitigation for this unit. Mitigation has been covered elsewhere in the CERT curriculum.

These two slides review basic concepts participants should keep in mind for each of the hazards reviewed in this unit.

Unit 10: All Hazards



Community Emergency Response Training

Overview and Objectives

- 15 hazards (natural and cultural)
- Regional emphasis
- Awareness equals preparation
- Mitigation
- Understand the characteristics of all hazards
- Identify risks in this region
- Describe actions to take before, during and following a disaster.



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For All Hazards. . .

- Family disaster plan
- Teach all family members how and when to turn off gas, electricity and water.
- Teach children: 9-1-1 and radio stations to tune in for emergency information.
- Local Emergency Management Office or American Red Cross chapter



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This slide is part of the 10 minutes allotted for Mitigation covered on page 2 of 19.



A dam is a barrier controlling the flow of water. It can be made of earth or concrete and built across a river or stream to obstruct or control the flow of water. There are about 80,000 dams in the United States today, the majority of which are privately owned. Other owners are state and local authorities, public utilities, and federal agencies.

Several things can cause a dam to fail: first, if they are not designed, operated and maintained properly, or when major flooding overwhelms the dam's capacity or structural damage caused by people, earthquakes or other natural disasters.

The energy of the water stored behind even a small dam is capable of causing loss of life and great property damage due to flooding, landslides and mudslides to people, communities or property downstream of the dam.

The National Dam Safety Program is dedicated to protecting the lives of American citizens and their property from the risks associated with the development, operation, and maintenance of America's dams.

For All Hazards continued.

- 72 hour (3-day) kit
- Mitigate – Prevent, reduce, or lessen the damaging effects
- Develop an emergency communication plan
- Know your insurance. Keep it up-to-date



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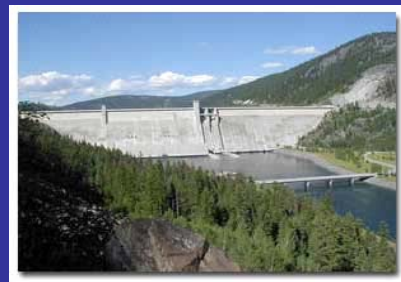
Dams

- Dams
- When or where can a dam break?
- What damage can occur from dam failure?
- Emergency Information



Community Emergency Response Training

The Libby Dam in Montana



<http://www.libbymt.com/areaattractions/libbydam.htm>



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An earthquake is a sudden, rapid shaking of the Earth caused by the breaking and shifting of rock beneath the Earth's surface. Sometimes the movement is gradual. At other times, the plates are locked together, unable to release the accumulating energy. When the accumulated energy grows strong enough, the plates break free causing the ground to shake.

Stay inside. The best protection during an earthquake is to get under heavy furniture such as a desk, table, or bench.

If outdoors: Move into the open, away from buildings, streetlights, and utility wires. Once in the open, stay there until the shaking stops.

If in a moving vehicle: Move to a clear area away from buildings, tree, overpasses or utility wires. Stop quickly and stay in the vehicle. Once the shaking has stopped, proceed with caution. Avoid bridges or ramps that might have been damaged by the quake.

The greatest danger exists directly outside buildings, at exits, and alongside exterior walls.

Ground movement during an earthquake is seldom the direct cause of death or injury. Most earthquake-related casualties result from collapsing walls, flying glass, and falling objects.

Earthquake

Earthquakes?

When and where do earthquakes occur?

What damage can occur from an earthquake?

Emergency Information.



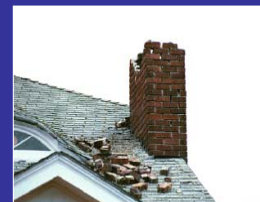
Community Emergency Response Training

Earthquake Damage to Structures



San Miguel, CA

Photographer - Dane Golden



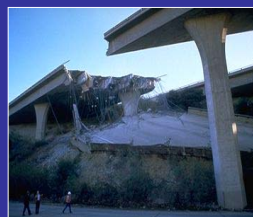
Seattle, WA

Photographer - John Shea



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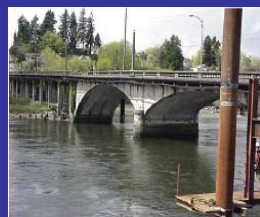
Earthquake Damage to Infrastructure



Collapsed highway
Northridge, CA



Photograph - FEMA News Photo
Office for Domestic Preparedness
Community Emergency Response Training



Damage to bridge over water
Olympia, WA

Photographer - Robert A. Eplett



Temperatures 10 degrees or more above the average high temperature for a region and last for several weeks are defined as extreme heat. Humid or muggy conditions, which add to the discomfort of high temperatures, occur when a “dome” of high atmospheric pressure traps hazy, damp air near the ground. Excessively dry and hot conditions provoke dust storms and low visibility. Droughts occur when a long period passes without substantial rainfall.

Heat kills by pushing the human body beyond its limits.

Most heat disorders occur because the victim has been overexposed to heat or has over-exercised for his or her age and physical condition

A prolonged drought can have a serious economic impact on a community. Increased demand for water and electricity may result in shortages of resources.



A flood is a general and temporary condition of partial or complete inundation of two or more acres of normally dry land area or of two or more properties, at least one of which is your property from: overflow of inland or tidal waters, unusual accumulation, collapse of land along the shore or lake, dam failures or flash floods.

Extreme Heat / Drought



'Dust Devils', NV
Photographer - K. Dewey, High Plains
Regional Climate Center Boulder City, NV



Lake Meade, NV
Low Water Mark
Photographer - K. Dewey, High Plains
Regional Climate Center Boulder City, NV



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Extreme Heat

- Extreme heat?
- Where does extreme heat occur?
- What damage can occur from extreme heat?
- Emergency Information.



Community Emergency Response Training

Flood

- Flooding.
- When and where do floods occur?
- What damage can occur from a flood?
- Emergency Information.



Community Emergency Response Training

Floods are the most common and widespread of all natural disasters. Tribal, State, and Territorial communities in the United States have experienced some kind of flooding, after spring rains, heavy thunderstorms, or winter snow thaws. **Your homeowners or renters insurance does not cover flood damage.**

Fill bathtubs, sinks, and jugs with clean water in case water becomes contaminated.

Listen to a battery-operated radio for the latest storm information.

If local authorities instruct you to do so, turn off all utilities at the main power switch and close the main gas valve.

If told by emergency management or law enforcement personnel to evacuate your home, do so immediately!

If the waters start to rise inside your house before you have evacuated, retreat to the second floor, the attic, and if necessary, the roof.

Floodwaters may carry raw sewage, chemical waste and other disease-spreading substances.

Avoid walking through floodwaters. As little as six inches of moving water can knock you off your feet.

Do not drive through a flooded area. A car can be carried away by just 2 feet of floodwater. More people drown in their cars than anywhere.

Look out for animals -- especially snakes. Animals lose their homes in floods too.

Flood Damage



Ice Jams during flooding
FEMA News Photo



Community members
sandbagging
Photographer – Dave Saville



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Flood Damage



Grand Forks Herald Newspaper
building after flood caused fire
Photographer – Phil Cogan



Flooded railroad bridge
with 24 foot clearance
Photographer – Phil Cogan



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Flood Damage



Earth dike at 52 feet,
Floodwaters at 54 feet +.
Photographer – Dave Saville



Sheriff's dingo on patrol
in flooded area
Photographer – Dave Saville



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Take steps to reduce your risk of future floods. Make sure to follow local building codes and ordinances when rebuilding, and use flood-resistant materials and techniques to protect yourself and your property from future flood damage.



Hazardous materials are chemical substances, which if released or misused can pose a threat to the environment or health. These chemicals are used in industry, agriculture, medicine, research, and consumer goods. Hazardous materials come in the form of explosives, flammable and combustible substances, poisons, and radioactive materials. These substances are most often released because of transportation accidents or because of chemical accidents in plants.

Between 1982 and 1991, there was an annual average of 6,774 hazardous materials transportation incidents. In 1991, 9,069 transportation incidents resulted in 10 deaths and 436 injuries.

Varying quantities of hazardous materials are manufactured, used, or stored at an estimated 4.5 million facilities in the United States.

Modes of transportation experiencing incidents involving hazardous materials included air, highway, railway, waterways and pipelines.

Flood Damage



Humane Society animal rescue
Photographer – Dave Saville



Rescued cat
Photographer – Dave Saville



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Hazardous materials

- What are hazardous materials?
- When and where do hazardous material disasters occur?
- What damage can occur from an hazardous materials disaster?
- Emergency Information.



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Hazardous Materials



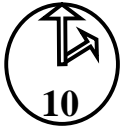
Oil Spill at Valdez Harbor
Photographer - Terry FitzPatrick



Hazardous Materials drill
Chardon Ohio
<http://www.chardonfire.com/training3.htm>



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A hurricane is a tropical storm with winds that have reached a constant speed of 74 miles per hour or more. Hurricane winds blow in a large spiral around a relative calm center known as the "eye." The "eye" is generally 20 to 30 miles wide, and the storm may extend outward 400 miles.

August and September are peak months during the hurricane season, which lasts from June 1 through November 30.

During a Hurricane Warning – issued when hurricane conditions are expected in 24 hours or less (e.g. winds of 74 miles per hour or greater or dangerously high water and rough seas).

Listen constantly to a battery-operated radio or television for official instructions. If in a mobile home, check tie-downs and evacuate immediately.

If officials indicate evacuation is necessary: Leave as soon as possible

Secure your home by unplugging appliances and turning off electricity and the main water valve.

Tell someone outside the storm area where you are going.

If time permits, and you live in an identified surge zone, elevate furniture to protect it from flooding or better yet, move it to a higher floor.

Take pre-assembled emergency supplies, warm protective clothing, blankets and sleeping bags to shelter.

Hurricanes

- Hurricanes.
- When and where do hurricanes occur?
- What damage can occur from a hurricane?
- Emergency Information.



Community Emergency Response Training

Hurricane Infrastructure Damage



Boardwalk and shoreline
Damage from storm surge
Photographer – Mark Wolfe



Road damage from hurricane
Photographer – Dave Saville



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Hurricane Damage to Homes

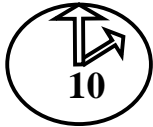


Shoreline mitigated home and inland mitigated home
both damaged by hurricane.

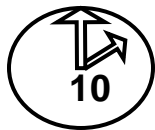
Photographer – Dave Saville



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Return home only after authorities advise. Avoid loose or dangling power lines and report them immediately to the Power Company, police, or fire department. Enter your home with caution. Ventilate and dry your home. Check refrigerated foods for spoilage. Take pictures of the damage. Drive only if absolutely necessary



Landslides are typically associated with periods of heavy rainfall or rapid snow melt and tend to worsen the effects of flooding that often accompanies these events.

Mudflows (or debris flows) are rivers of rock, earth, and other debris saturated with water.

If inside a building: stay inside and take cover under a desk, table, or other piece of sturdy furniture.

Try and get out of the path of the landslide or mudflow.

Move quickly to the nearest high ground in a direction away from the path.

If rocks and other debris are approaching, run for the nearest shelter such as a group of trees or a building.

If escape is not possible, curl into a tight ball and protect your head.

Hurricane Recovery Efforts



Power restoration efforts
Photographer – Michael Rieger



Disaster Temporary Housing
Photographer – Andrea Booher



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Community Emergency Response Training

Landslides and Mudslides

- Landslides and mudslides.
- When and where do landslides and mudslides occur?
- What damage can occur from landslides and mudslides?
- Emergency Information.



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Community Emergency Response Training

Landslides and Mudslides



Landslide at Peers Creek, NC
Photographer – Lief Skoogfors



Mudslide, Southern CA
Photographer – Laura Lee



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Community Emergency Response Training



This section deals with what happens if a release occurs at a nuclear plant, or when material destined for a storage facility is in an accident. If participants raise issues about 'dirty bombs' (bombs that have radioactive elements as a part of the makeup) suggest that you will address that issue in the terrorism section that is coming up.

These two slides represent nuclear energy emergencies that have happened in recent history. The Three Mile Island emergency happened in the late 1970's and the community still deals with clean up issues. The Los Alamos National Lab never had a leak, but is used as an example of how disasters can piggyback each other based on what humans have constructed in the geographic area of the disasters path. That near miss happened in the early 2000's.

Teaching tip:

In this unit it is a good idea for the instructor to be aware that some participants may want to politicize the conversation and direct it toward their political party preference. It is a good idea to redirect that type of conversation to break time or personal time. This unit should prepare CERT trained individuals to deal with the emergency needs of the community. Although all things have political value, getting into blame-game conversations can cause defensiveness and difficulty in the classroom climate. Good Luck with this!

Nuclear Energy Emergency

- What is a nuclear energy emergency?
- When and where do nuclear energy emergencies occur?
- What damage can occur from a nuclear energy emergency?
- Emergency Information.



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Nuclear Energy Emergency



President Jimmy Carter (in bus) on his way to Three Mile Island
Photographer – Frank Johnston © Copyright 1999 The Washington Post Company



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Burnt homes within a mile of the Los Alamos National Laboratory (nuclear facility).
Photographer Andrea Booher

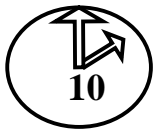
Terrorism

- Terrorism?
- When and where does terrorism occur?
- What damage can occur from terrorism?
- Emergency Information.



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Community Emergency Response Training

This slide shows the Oklahoma City bombings, which followed with the conviction of an American citizen for the crime. Emphasis on this tragedy can direct the conversation toward how terrorism is difficult to predict and is not simply an issue between nations but can be about internal disagreements as well. Such is the nature of terror, the unpredictability makes it unique compared say to flooding. While it can't be predicted, the time line can be narrowed and mitigation can be addressed by the public. Mitigation of terrorism is a public policy issue of greater complication.



A thunderstorm is formed from a combination of moisture, rapidly rising warm air and a force capable of lifting air such as a warm and cold front, a sea breeze or a mountain. All thunderstorms contain lightning.

Lightning is an electrical discharge that results from the buildup of positive and negative charges within a thunderstorm. When the buildup becomes strong enough, lightning appears as a "bolt."

While thunderstorms and lightning can be found throughout the United States, they are most likely to occur in the central and southern states. The state with the highest number of thunderstorm days is Florida.

'Just good to know' information; yes, lightning can and does strike multiple times in the same location. People rarely survive one strike, let alone more!

Terrorism



1995 bombing of the Murrah Federal Building in Oklahoma City.
Photography – FEMA News Photo



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1993 - The bombed underground parking garage of the World Trade Center.
Photography – Associated Press
<http://www.emporis.com/en/bu/sk/wt/up/cb/>

Thunderstorms and Lightning

- Thunderstorms and lightning.
- When and where do thunderstorms and lightning occur?
- What damage can occur from thunderstorms and lightning?
- Emergency Information.



Community Emergency Response Training

Thunderstorms and Lightning



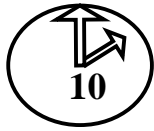
Lightning strike in an urban area.
Photography – NOAA News Service



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Community Emergency Response Training



Thunderstorm and lightning in a forest.
Photography – NOAA News Service



A tornado is a violent windstorm characterized by a twisting, funnel-shaped cloud. It is spawned by a thunderstorm (or sometimes as a result of a hurricane) and produced when cool air overrides a layer of warm air, forcing the warm air to rise rapidly.

Tornado season is generally March through August, although tornadoes can occur at any time of year. They tend to occur in the afternoons and evenings: over 80 percent of all tornadoes strike between noon and midnight.

A **tornado watch** is issued by the National Weather Service when tornadoes are possible in your area. Remain alert for approaching storms. This is time to remind family members where the safest places within your home are located, and listen to the radio or television for further developments.

A **tornado warning** is issued when a tornado has been sighted or indicated by weather radar.

This slide is an excellent example of mitigation. The couple from Battlefield MO survived even though their home was destroyed. There is information about the structural requirements of a safe room and directions for building one on the FEMA.gov web site.

Tornadoes

- Tornadoes.
- When and where do tornadoes occur?
- What damage can occur from a tornado?
- Emergency Information.



Community Emergency Response Training

Tornado Infrastructure Damage



Public Utilities
Photographer - Win Henderson



Damage to roads and business area
Photographer - Win Henderson



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Community Emergency Response Training

Tornado Safe Room



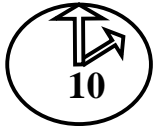
Bank vault as a safe room in Tuscaloosa, AL after F-4 Tornado. Photographer - Jason Pack



Tornado damage surrounds the safe room used by this couple in Battlefield, MO
Photographer - Adam DuBrowa



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A tsunami (pronounced “soo-nahm'ee”) is a series of waves generated by an undersea disturbance such as an earthquake. From the area of the disturbance, the waves will travel outward in all directions, much like the ripples caused by throwing a rock into a pond. The time between wave crests may be from 5 to 90 minutes, and the wave speed in the open ocean will average 450 miles per hour.

The major Tsunami that struck Indonesia in the early 2000's brought this force of nature to worldwide attention. Many communities on shorelines took advantage of the public's attention to the issue and conducted community training drills.

This slide highlights the tsunami that struck Hawaii in the 1960's. An earthquake in Chile generated it. →

This slide is animated. Instructors should be aware it will come up in four phases, the photo left first, then the red circle on the left photo. Then the right photo followed by the red circle on the right photo. →

It shows how the shoreline changed by using a grove of trees (circled in red) as a vantage point. The slide shows how 11 and-a-half feet of shore was reclaimed by the ocean as a result.

Tsunami

- Tsunamis.
- When and where do tsunamis occur?
- What damage can occur from a tsunami?
- Emergency Information.



Community Emergency Response Training

Tsunami



1960 Tsunami in Hilo Hawaii. Generated from 8.6 earthquake in Chile. At land the earthquake movement was 9.5, killing 61 people. 537 buildings destroyed, damages in the millions. Photo: Pacific Tsunami Museum Archives - The Kohenen Collection and the Martin Polhemus Collection



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Tsunami

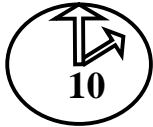


Views of the Halape Hawaii coast before and after the 1975 quake and tsunami. Notice the coconut grove standing in the sea as a result of the 11.5 foot subsidence of the shoreline.



"Before" photo courtesy of D. Reeser, National Park Service (Nov 1973)
"After" photo courtesy of P.W. Lipman, Hawaii Volcano Observatory (Dec 1975).

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A volcano is a mountain that opens downward to a reservoir of molten rock below the surface of the earth. When pressure from gases and the molten rock becomes strong enough to cause an explosion, eruptions occur. Gases and rock shoot up through the opening and spill over, or fill the air with lava fragments.

In the United States, volcanic eruptions are most likely in the Pacific Rim states of Hawaii, Alaska, Washington, Oregon, and California. The chance of eruptions that could damage populated areas is the greatest for the active volcanoes of Hawaii and Alaska.

The United State Geological Survey web site has excellent photographs that detail the explosion of Mt. St. Helens in greater detail that the six slides in this section.

As you display these slides keep in mind that you should describe them in detail for participants with sight limitations. Instructors can describe the shape of a triangle and how a volcanic eruption can blow off the tip of the triangle. This can act as good learning device for blind or partially sighted students. It is also a good practice exercise for the disaster communication unit. In that unit participants are asked to use communication techniques that are not their primary form of communication.

Volcano

- Volcanoes.
- When and where do volcanic eruptions occur?
- What damage can occur from an eruption?
- Emergency Information.



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Volcano



Mt. St. Helens, WA. Before the big eruption in 1980
Photograph – United States Geological Survey.



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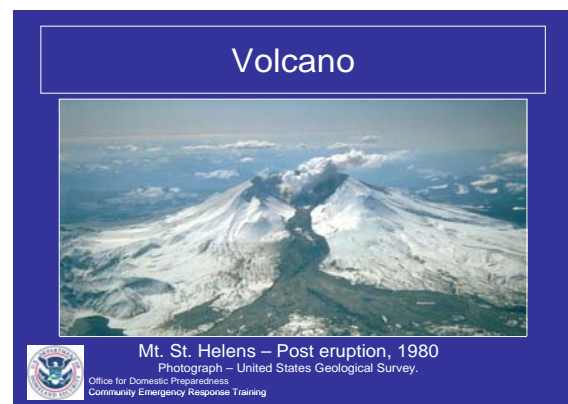
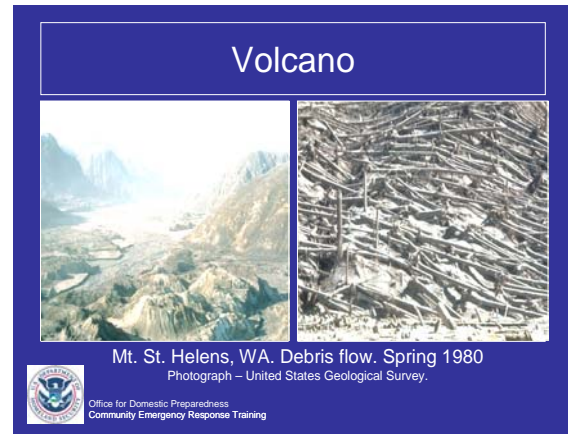
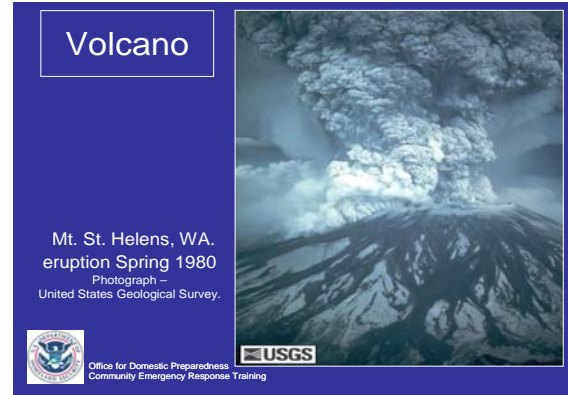
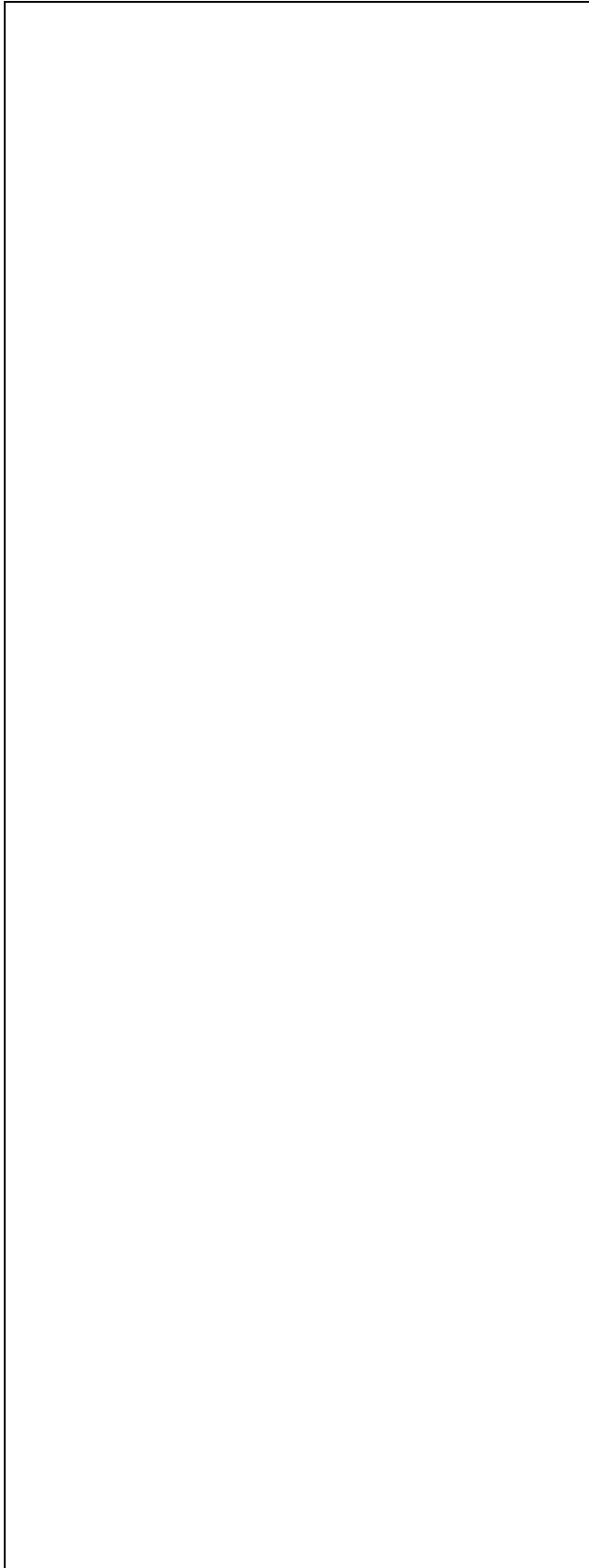
Volcano

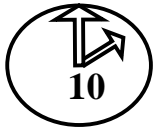


Mt. St. Helens, WA. Phreatic eruption begins, Spring 1980
Photograph – United States Geological Survey.



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Three fundamental elements of a winter storm include: watches and warnings, wind chill factors and blizzard conditions.

"Wind chill" is a calculation of how cold it feels outside when the effects of temperature and wind speed are combined.

Winter Storm Watches and Warnings – A winter storm watch indicates that severe winter weather may affect your area. A winter storm warning indicates that severe winter weather conditions are definitely on the way.

'Just good to know information' a cold winter storm can freeze soap bubbles so fast that as they are blown from a bubble wand they crash to the ground. Hey, you need to keep entertained during a winter storm somehow!

Volcano



Mt. St. Helens, Spring 2005. New magma dome forming
Photograph – United States Geological Survey.



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Winter Storms

- Severe winter storms.
- When and where do winter storms occur?
- What damage can occur from winter storms?
- Emergency Information.



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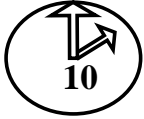
Winter Storms



Severe ice damage to trees during a winter storm
in Missouri, 2002. Photographer – David Stonner



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It is good to focus on the geographic region of the class. It can be overwhelming for participants to prepare for all hazards.

Always ask if there are questions at the end of each unit, but remember as an instructor, to ask that as you go along. Often questions are best asked and addressed in the body of your presentation when they are more topical and easy to relate to information at hand.

Identify if there is a break before the next session, how long it is, and where toilet facilities, snacks and rest areas are located.

Performance Measure All Hazards

- At each table – Identify two hazards this region of the country may be at risk to encounter.
- Describe actions to take before these hazards.
- Describe actions to take during these disasters.
- Describe actions to take post disaster.
- Present this information to the whole class.
- Time – 5 minutes to prepare,
3 minutes to present.



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